

REMARKS

Status of the Claims

Claims 1- 62 are pending.

Claims 1-62 have been rejected.

By this response, please **amend** claims 1, 2, 3, 12-15, 24, 25, 32-37, 43, 47- 55, 58-62, **cancel** claims 5, 6, 18, and add **new** claims 63, 64, 65, 66, 67.

Title

The title has been amended as suggested by the Examiner.

Objections

The Examiner objected to several of the claims. The claims have been amended as follows to address each of the objections.

Claim 3, “a communication path” of claim 1 has been amended to “a first communication path” and “a communication path” of claim 3 has been amended to “a second communication path” so that the two communication paths are distinguishable.

Claim 3, “a routing of information” has been amended to “routing of information”. Claim 1 was similarly amended. The information is generic, and there is no reason to distinguish the routing of information other than that the information is routed through the “first communication path” and the “second communication path”.

Claims 5 and 6 have been cancelled.

Claim 18 had been cancelled.

Claim 36, “the first gateways” has been amended “the first gateway”

Claim 57 now recites “expires out” rather than “ages out”.

Claims 58 and 60 have been amended in as claims 1 and 3 were amended.

Rejections

35USC112, Second Paragraph

The Examiner rejected claims 1-62 under 35USC112 second paragraph.

In claim 1, “a client” of line 3 has been amended to “the client”.

In claim 1, “the first wireless node” has been amended to “the first wireless access node”.

In claim 3, “the second wireless node” has been amended to “the second wireless access node”.

In claim 32, “an access node” has been amended to “the first wireless access node”.

In claim 37, “the second gateway” has been amended to “a second gateway”.

In claim 51, has been amended to “wherein both the first IP address and the default gateway route on the client device remain fixed as the client roams within a cluster, both the first IP address and the default gateway route on the client device remain fixed as the client roams between clusters having a common subnet, both the first IP address and the default gateway route on the client device remain fixed as the client roams between clusters having different subnets.

In claim 58, “the first wireless node” has been amended to “the first wireless access node”.

In claim 60, “the second wireless node” has been amended to “the second wireless access node”.

In claim 62, “the first wireless node” has been amended to “the first wireless access node”.

35USC103

The Examiner rejected claims 1-11, 16-21, 23, 24, 38, 41, 58-62 under 35USC103(a) as being unpatentable over La Porta in view of Csapo (2003/0202497A1).

Amended Claim 1 includes the following features:

the first wireless access node detecting the client seeking access to the system, the first wireless access node able to wirelessly connect to a back bone network;

the first wireless access node obtaining client information, the client information comprising an IP address of the client's default gateway, wherein the IP address of the client's default gateway is assigned to the client by a DHCP server;

the first wireless access node providing the client a first communication path to and from a destination, the first communication path able to include wired and wireless communication links; and

aiding in routing of information through the first communication path between the client and the destination based upon detection of the client.

(Emphasis Added)

Claim Rejections Under 35 USC 103(a)

It is respectfully noted that to substantiate a *prima facie* case of obviousness the initial burden rests with the Examiner who must fulfill three requirements.

More specifically:

To establish a *prima facie* case of obviousness, three basic criteria must be met.

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings.

Second, there must be a reasonable expectation of success.

Finally, the prior art reference (or references when combined) must teach or suggest all claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. MPEP Sec. 2143, *In re vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Paralleling the MPEP references cited above, the Federal Circuit has enunciated several guidelines in making a 35USC103 obviousness determination. A *prima facie* case of obviousness is established when and only when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 783, 26 U.S.P.Q.2d 1529, 1531 (Fed Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051 (C.C.P.A. 1976)). (Emphasis added). “The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.” (Emphasis added) *In re Fritch*, 23 USPQ 2d 1780, 1783-84 (Fed. Cir. 1992).

Applicants respectfully disagree with the Examiner’s rejection for the following reasons:

La Porta does not teach or suggest obtaining client information, where the client information comprising an IP address of the client’s default gateway, wherein the IP address of the client’s default gateway is assigned to the client by a DHCP server.

In the Office Action, the Examiner states that (regarding the original claim 15), La Porta discloses determining an IP address of the client’s default gateway. The Examiner references col. 28, lines 5-27, and states that La Porta includes determining an IP address of the old/previous BS/router BS9.

Determining an IP address of the old/previous BS/router BS9 is not the same as obtaining an IP address of a client’s default gateway, wherein the IP address of the client’s default gateway is assigned to the client by a DHCP server.

As shown in Figure 4, and described on page 12, lines 9-15 “The client 410 initiates a DHCP discover 451. The DHCP relay 420 relays the DHCP discover through the network 430 to the DHCP server 440. The DHCP server 440 generates a DHCP offer

that includes an IP address (IP1) and a default gateway (DG1). The DHCP relays the DHCP offer to the client 410. Upon receiving the DHCP offer, the client 410 generates a DHCP request. Again, the DHCP relay 420 relays the DHCP request to the DHCP server 440. The DHCP server 440 generates an acknowledgement. The client device 410 receives the acknowledgement. The DHCP relay 420 records the IP address and default gateway.

Further, as shown in Figure 5, as described on page 13, line 29 to page 14 line 6, “A third event 530 includes receiving an AARP response from the AARP server. If a response is received, then the local database, then a fourth event 540 includes a local client table being updated with the client MAC address, the client IP address and the client default gateway (DG). If a response is not received, then a fifth event 550 includes waiting for a DHCP exchange from the new client. The client IP address and the client default gateway (DG) are obtained from the DHCP acknowledgement. When an exchange is received, the local client table can be updated with the client MAC address, the client IP address and the client default gateway (DG), and an AARP update is sent to the AARP server.”

La Porta specifically teaches base station BS11 maintains a default entry (col. 28, lines 6-32). BS11 of La Porta is different than the default gateway of the claimed invention. The only similarity between the BS11 maintaining a default entry (col. 28, line 17) and the client default gateway is the word default. The BS11 default entry corresponds to the BS11’s default gateway, not the client’s default gateway.

However, even *if* the BS11 default entry was the same as the BS11’s default gateway, there is no suggestion or motivation for an access node of La Porta to obtain a client’s default gateway IP address from DHCP server response to a client. The mobile system of La Porta includes clients that actively participate in the hand off from one base station to another. The client of La Porta transmits a hand off path setup message (see col. 28, line 4). The claimed invention does not require the client to actively participate in a roam from one access node to another. La Porta includes the client explicitly (that is, through the handoff path setup message) providing the new BS with its own IP address

and the IP address of the old BS (see Fig. 9). The claimed invention does not require the client to provide the access node with the client's IP address or the address of any previous access nodes to which the client may have been associated.

Claim 1 is patentable over the cited prior art.

Claim 2-12 are directly, or indirectly dependent on Claim 1. Therefore, claims 2-12 are patentable over the cited prior art.

Claim 12 was rejected under 35USC103(a) as being unpatentable over La Porta in view of Csapo, as applied to claim 1, and further in view of Touati (US 2003/0212794A1). Applicants respectfully disagree.

Amended claim 12 includes the following features:

the first wireless access node detecting a MAC address of the client;
the first wireless access node determining an IP address of the client from
the MAC address of the client.

The Examiner stated "La Porta discloses determining an IP address of the client." The Examiner further stated "Neither La Porta nor Csapo explicitly discloses detecting a MAC address of the client. However, the claim limitations are taught by Touati."

The claimed invention includes the opposite process as Touati. More specifically, the claimed invention determines the client IP address from the MAC address of the client. This is not an obvious modification of the prior art. The prior art requires the client to provide its IP address rather than its MAC address. The claimed invention includes the first wireless access node detecting a MAC address of the client, the first wireless access node determining an IP address of the client from the MAC address of the client. Again, this is not an obvious modification of Touati.

Claim 12 is patentable over the cited prior art.

Claims 13-24 are directly or indirectly dependent on Claims 1 and 12. Therefore, claims 13-24 are patentable over the cited prior art.

Regarding claim 25, Claim 25 provides a method in which the access node can determine a client IP address from a client MAC address. More specifically, first wireless access node obtains the client information from a gateway by sending an anti-ARP request. As stated in the specification on page 12, line 27 to page 28, line9, “One or more servers (gateways) on the network can maintain a MAC-address-to-IP-address mapping for all client devices attached to the network. The address mapping can be stored in an address mapping table that can be arranged to be synchronized across all the servers. This address mapping table can be referred to as an AARP Table (AARP = Anti-ARP). ARP is generally is a protocol for the resolution of IP addresses to MAC addresses. Here, anti-ARP (AARP) is a protocol for the resolution of MAC addresses to IP addresses.

An access node can query one of these servers (gateways) to determine the IP address corresponding to the MAC address of one of the Client Devices attached (in communication) to the access node. Generally, the gateway (server) responds with the IP address of the client device (if this entry exists in its AARP Table). If the entry does not exist in the AARP table, the gateway queries other gateways. The gateway generally then responds to the access node with the reply received.

Generally, the access node functions as an AARP Client. A Gateway acts as an AARP Server when responding to AARP Requests from an Access Node or a Gateway and as an AARP Client when sending AARP Requests to another Gateway. The service requested is the determination of the IP address corresponding to a given MAC address. Therefore, the service request is termed AARP (Anti-ARP), as opposed to ARP which is a protocol for the resolution of IP addresses to MAC addresses.”

The Examiner stated “Claims 25 and 37 are rejected und 35USC 103(a) as being unpatentable over La Porta in view of Csapo, as applied to claim 1 above, and further in view of Fujimori (US 6,542,510).

Applicants respectfully disagree with the Examiner because the RARP of Fujimori is very different than the AARP of the invention. An RARP includes an RARP device requesting its own IP address based on its own MAC address. An Anti-ARP (AARP) as described above, includes an access node determining an IP address for a client based upon the MAC address of the client.

The AARP of the claimed invention was developed so that a client could access the network without having to explicitly provide its IP address to access nodes, as is required for Mobile IP or equivalent. The client of the claimed invention does not play an active role in associating and roaming within the network.

Claim 25 is patentable over the cited prior art.

Claims 26-32 are directly or indirectly dependent on claim 1. Therefore, claims 26-32 are patentable over the cited prior art.

Regarding Claim 33, The Examiner stated that “Fujimori discloses an IP address of the client is obtained by *snooping IP datagrams originating from MAC address of the client*.” Applicants have reviewed the sections of Fujimori cited by the Examiner, (Figure 2, col. 1, lines 35-47, col. 6, line 50 to col. 7, lines 40) and applicants cannot find reference to these features. Again, an AARP of the invention is different than an RARP of Fujimori.

Claim 33 has been amended to include:

wherein if none of the gateways have information regarding the client, then an IP address of the client is obtained by the first wireless access node by at least one of: pinging the broadcast address, snooping IP datagrams originating from MAC address of client, the first wireless access node inspecting a DHCP acknowledgment packet.

Claim 33 is patentable over the cited prior art.

Claim 34 is dependent on claim 33. Therefore, claim 34 is patentable over the cited prior art.

Regarding Claim 35, amended claim 35 includes the following features:

wherein if none of the gateways have information regarding the client, then a default gateway IP address of the client is obtained by interception and inspection by the first wireless access node of a DHCP acknowledgment packet sent to the client.

Again, the Examiner stated that “Fujimori discloses an IP address of the client is obtained by *snooping IP datagrams originating from MAC address of the client.*”

Applicants have reviewed the sections of Fujimori cited by the Examiner, (Figure 2, col. 1, lines 35-47, col. 6, line 50 to col. 7, lines 40) and applicants cannot find reference to these features. Again, an AARP of the invention is different than an RARP of Fujimori.

Claim 35 is patentable over the cited prior art.

Claim 34 is dependent on claim 33. Therefore, claim 34 is patentable over the cited prior art.

Claims 35-57 are directly or indirectly dependent on claim 1. Therefore, claims 35-57 are patentable over the cited prior art.

Amended claim 58 includes similar features as amended claim 1. Therefore, claim 58 is patentable over the cited references.

Claims 59-61 are directly or indirectly dependent on Claim 58. Therefore, claims 59-61 are patentable over the cited references.

Amended claim 62 includes similar features as amended claim 1. Therefore, claim 62 is patentable over the cited references.

New claim 63 includes the follow features:

the first wireless access node detecting the client seeking access to the system, the first wireless access node able to wirelessly connect to a back bone network;

the first wireless access node obtaining client information, the client information comprising an IP address of the client's default gateway and the client's IP address, wherein the IP address of the client's default gateway is obtained by the first wireless access node by intercepting and inspecting a DHCP acknowledgement packet, and wherein the client's IP address is also obtained by the first wireless access node by interception and inspection of the DHCP acknowledgment packet;

the first wireless access node providing the client a first communication path to and from a destination, the first communication path able to include wired and wireless communication links; and

aiding in a routing of information through the first communication path between the client and the destination based upon detection of the client.

Claim 63 is patentable over the cited prior art for the following reasons:

1. The prior art does not include a wireless access node obtaining a client's default gateway IP address and the client's IP address.
2. The prior art does not teach the IP address of the client's default gateway remaining fixed.
3. The prior art does not teach a wireless access node intercepting and inspecting a DHCP acknowledgement packet to determine the IP address of the client's default gateway.
4. The prior art does not teach the client's IP address is also obtained by the first wireless access node by interception and inspection of the DHCP acknowledgment packet.

New claim 63 is patentable over the cited prior art.

New claim 64 includes similar features as claim 1, but additionally includes "the first wireless access node being wire connected to a back bone network". This feature was previously included in old claim 5. This feature is additionally disclosed within the

specification. New claim 64 is patentable over the cited prior art for the reasons Claim 1 is patentable over the cited prior art. Claim 65 is dependent on claim 64. Therefore, claim 65 is patentable over the cited prior art.

New claims 66, 67 are indirectly dependent on claim 1. Therefore, claims 66, 67 are patentable.

No new matter has been added by these amendments.

The applicants respectfully request reconsideration of the claims in view of the amendments and remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,
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